

graduate, should be maintained on a high standard and be adapted to modern needs; there should be sufficiency of personnel and institutional accommodation; and wherever economic barriers prevent an individual taking advantage of medical services such barriers should be removed."

Next, the representative body stated that the functions of the state should be to coördinate existing provision, to augment it where necessary, and control economic barriers to good medical service.

The platform of the American Medical Association calls for:

"The establishment of an agency of federal government under which shall be coördinated and administered all medical and health functions of the Federal Government exclusive of those of the Army and Navy.

"The allotment of such funds as the Congress can make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need."

Indeed, the American Medical Association has heartily approved the provision of medical care for the indigent and the medically indigent with determination of need, and local control of administration.

This proposal for utilization of federal funds is far different from the erection of a federal mechanism involving the expenditure of \$4,000,000,000 annually, such as is proposed in the Wagner-Murray-Dingell bill.

The American Medical Association has proposed as the seventh tenet in its platform:

"The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability."

The representative body of the British Medical Association has said that it is not in the public interest that the state should convert the medical profession into a salaried branch of central or local government service; that it is not in the public interest that the state should invade the doctor-patient relationship, and, finally, there should be initiated, by arrangement and agreement between the government and the profession, organized experiments in the methods of practice, such as group practice, including health centers of different kinds which should extend to general practitioner hospital units attached to general hospitals. Future developments in group practice should depend upon the results of such clinical and administrative experimentation.

Thus, without the slightest consultation or interchange of opinion other than appears in the medical press of the two nations, the British medical profession and ours are in agreement as to the trend which the evolution of medical practice should follow.

We, in this country, have already begun many experiments with and without the aid of the Government. Mr. Henry Kaiser's industrial plan is evidence of the manner in which experimentation may be undertaken, but time alone can indicate

the evolution which that plan will follow to meet changing economic situations. Even the kind of group practice utilized by the Mayo, Lahey, and Crile Clinics, not to mention the Shadid and Ross-Loos Clinics, undergoes constant changing. It would be folly to offer any one of these experiments in the light of present conditions as the system to be followed by the entire nation.

No doubt, the plan utilized by the Farm Security Administration for giving medical care to 105,000 farm families has virtues, but even that plan has been modified from county to county, and from state to state.

Many a great organization, such as Sears-Roebuck, Western Electric Company, Endicott-Johnson Shoe Company, and, indeed, the headquarters of the American Medical Association, utilizes the services of the well-established insurance companies like the Metropolitan, New York Life, Travelers', Aetna, etc., to provide hospitalization, or sickness, or catastrophic insurance for its employees.

Fourteen state medical societies have erected plans whereby such organizations coöperate in extending hospitalization and sickness insurance to groups of workers who care to coöperate.

Medicine has not been static, neither has there been discouragement from professional medicine beyond what is needed to protect the public against those who see in the administration of medical service an unusual opportunity for exploitation because of appeal to a man in his time of greatest need.

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OBSERVATIONS OF A MEDICAL OFFICER IN THE SOUTH PACIFIC AREA*

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FOREWORD.—In the spring of 1942 I was ordered to report to a West Coast port of embarkation for overseas duty. I was placed in command of a Medical Unit with a large staff of medical officers, dental officers, nurses, and trained enlisted medical technicians. We sailed to an unknown destination. By the end of the first day out many of the staff were seasick and so did not enjoy any part of the voyage. Day after day we zigzagged across the broad Pacific, and as the temperature went higher and higher we decided we were headed for some place in the South Pacific area.

Old King Neptune held his royal court aboard ship the day we crossed the Equator, and the very amusing ceremonies incident to making us all "shell-

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The opinions and assertions contained herein are the private ones of the writer and are not to be used as official or reflecting the view of the Army Department or the Army service at large.

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backs" and initiating us into the "Ancient Order of the Deep" required several hours.

Fire drills, boat drills, and "abandon ship" drills were held at frequent intervals throughout the entire voyage, and the ship was completely blacked-out after sundown. When we neared our destination we presumably were attacked by a Japanese submarine, which was sunk by our naval escort vessels with cannon fire and depth bombs. This, of course, was the most exciting part of our voyage.

After several weeks of sailing, during which land was never sighted, we finally arrived at the South Pacific island which was to be our headquarters. Since we were the first American troops to arrive in that part of the world, the natives gave us a very warm welcome.

As I was Senior Army Medical Officer in that area, I was asked to work with the Naval Surgeon on the staff of the area commander. In that capacity I assisted in developing the medical plans for the supply, evacuation and hospitalization of the wounded from the Solomon Islands combat area. Medical plans were also developed for other islands in the South Pacific area. It was my privilege to work in close cooperation with the Bureau of Medicine and Surgery of our Navy Department throughout my service in the South Pacific area from May, 1942 to January, 1943, and its representatives were very cooperative at all times.

RECORD OF A SOUTH PACIFIC AREA COMBAT ZONE

Some of the finest medical units of the Army and Navy were stationed in that area during this period. As an example of the fine work which these units accomplished, the mortality rate was less than 0.2 per cent for all wounded who were evacuated from Guadalcanal to base hospitals. A Navy hospital ship evacuated thousands of casualties from Guadalcanal to hospitals where I was located, and the mortality was only seven, or a rate of 0.17 per cent. In fact, the mortality rate for all the United States forces in all combat zones since the beginning of this war has been only about one per cent. This sounds so low as to be almost unbelievable, when it is remembered that our mortality rate in World War I averaged between 7 and 8 per cent. There are many thousands and tens of thousands of American boys who will survive this war who would have died under the same circumstances during the last war.

There are three principal causes for this wonderful record. First, the use of blood plasma to combat shock and hemorrhage. Second, the use of sulfonamides to combat infection. And third, the speed and organization of the medical services so that prompt, efficient medical and surgical treatment is rendered, and the patients are hospitalized without delay.

In World War II the Army and Navy Medical Corps are so well organized that a wounded man is given life-saving medical and surgical treatment almost as soon as he is wounded. A very large percentage of the seriously wounded marines, sailors,

and soldiers from Guadalcanal were flown back in transport planes to Army hospitals and advance naval mobile hospitals, where they were given the finest hospital care within a few hours after they were wounded.

The Army and Navy transport surgeons who evacuated wounded men on transports deserve a great deal of credit for the low mortality rate, as do the staffs of Navy hospital ships. Many of the casualties who arrived on these ships had been so well cared for by the surgeons on the ships that when they arrived back at hospitals in the rear they were out of danger and needed only bed care for a few weeks to convalesce.

ABDOMINAL WOUNDS

In the last war, 70 to 80 per cent of the men who suffered wounds of the abdomen and who lived long enough to reach hospitals in the rear died there. But in this war our mortality rate on these cases has been less than 5 per cent. Of course, a great many serious wounds of the head, chest, abdomen, and spine result in death on the battlefield before evacuation can be effected. But many of these wounded are saved by speedy evacuation, who would have been lost in the last war.

In the last war we lost, from wounds, 14,014 men who had been evacuated to hospitals in the rear. Most of these men could have been saved if we had had plasma, sulfonamides, and speedy evacuation.

The general use of tetanus toxoid as a prophylactic for all members of the armed forces has made tetanus almost an unknown disease in this war.

In this war every soldier, sailor, and marine who goes into combat is equipped with a small kit containing sulfathiazole tablets to be taken orally if wounded, and also five grams of sulfathiazole crystals to be sprinkled into their wounds. Of the severely wounded who reached the hospitals at Pearl Harbor, even those with terrible burns, the mortality was less than 3 per cent. At Guadalcanal it was less than 0.2 per cent.

In our experience in the South Pacific area it was found that by the use of microcrystalline sulfathiazole sprinkled directly into the wound, and the use of sulfonamides orally, infection was reduced to such a remarkable extent that radical debridement was not necessary, and that the wounds could be left open and light dressings placed on them without extensive suturing or frequent dressings being necessary. Patients thus treated had rapid uneventful recoveries in so many instances that it seemed miraculous. The only cases in which the sulfonamides did not seem to produce these results were those who had been wounded while fighting in isolated areas, and were thus delayed in receiving treatment so that infection with pus had set in. Fortunately there were very few of such cases.

FRACTURES

In compound comminuted, as well as simple fractures, we used the method developed by Orr of Lincoln, Nebraska, and employed so successfully by Trueta in the Spanish Civil War, consisting of

rest to the fractured area and the application of plaster casts which were left on for several weeks. By this method the wound is scrubbed with soap and water, all dead tissues and foreign bodies are removed, sulfonamides are applied directly to the wound and it is packed wide open with vaseline-soaked gauze. Later the arm or leg is placed in a wet plaster bandage. The plaster is not changed for at least three or four weeks, and only then when the odor becomes unbearable. Thus, the patient is not subjected to painful, frequent re-dressings. When the dressing is removed from these fracture cases, in practically all instances the fracture has healed and no infection is present.

The history given by many of the sailors who have been blown into the water or whose ships have been sunk is that they spent twelve to sixteen hours or longer in the water before being rescued. Many of them had severe compound fractures and burns on which the warm sea water seemed to act in a beneficial manner.

During World War I, of all fracture cases in the United States Army, 40 per cent were permanently disabled and 12 per cent died. Those who were permanently disabled were chiefly so affected by amputation. On the basis of our experience in the South Pacific area, there will be less than 10 per cent permanently disabled and the mortality will be less than one per cent.

EVACUATION PLAN

Our plan for evacuation in the South Pacific area was to have first-aid men with the troops who carried morphine syrettes for use in relieving pain immediately. Our jeeps were constructed to carry two or four litters. Wherever it was possible for them to travel, they were used to transport the wounded from the battlefield to the battalion aid stations directly behind the lines where the casualties were given first aid, including morphine, sulphonamides, bandages, and splints. From the first-aid stations they were evacuated to the collecting stations, where further first aid was given, including blood plasma. From the collecting stations, ambulances transported them to clearing stations which were usually from three to five miles behind the lines. At the clearing stations, emergency surgery was performed if necessary, and from there the casualties were sent to base hospitals by ambulance, plane, or transport. Most of the seriously wounded from Guadalcanal were flown by plane to advance base hospitals.

BURNS

Burns are treated by the use of four grams of sulphadiazine orally, morphine, boric acid ointment or vaseline, pressure bandages and splints on the extremities. After this first-aid treatment they are given blood plasma, more sulphadiazine, debridement of the blisters and removal of loose shreds. Boric acid ointment dressings are applied. Other methods employed tannic acid and silver nitrate solutions sprayed on areas except the face, hands and genitalia, or the triple aniline dye spray. The Pickerell sulphodiazine spray treatment was also

used in some cases. The results obtained from these various methods were very good, and the mortality was comparatively low.

TROPICAL DISEASES

In addition to the treatment of wounds, one of our greatest problems in the South Pacific Area was protecting our troops from and treating them for the prevalent tropical diseases of that area. Malaria and dysentery were our two greatest problems. Malaria is by far the most serious disease with which we have to contend in the South Pacific. We are using suppressive medication routinely on all troops going into the malarial areas of the South Pacific. This treatment is not a true prophylactic, as it only suppresses the disease and, upon discontinuance, a large proportion of the troops develop symptoms that must be treated with quinine, atabrine, or plasmochin. It is estimated that the number of deaths from malaria throughout the world is eight million per year, and 95 per cent or more of the native populations in a great many islands in the South Pacific area where we have troops, are infected with malaria. No matter what sanitary and other control measures are taken in regard to the immediate surroundings of our troops to eliminate mosquitoes, including the use of head nets and mosquito nets for sleeping, it is still necessary for combat troops to be exposed to mosquitoes at night. Mosquitoes will travel long distances after biting an infected person.

The anopheles mosquito is present in California, Oregon, and Washington, and thousands of veterans of the South Pacific and Southwest Pacific are being returned to Army and Navy hospitals on this coast for treatment, in addition to the men who are being discharged for physical disabilities. Therefore, a potentially dangerous situation exists in that many of these men will be infected with malaria and have recurrent attacks for many years. The Anopheles mosquitoes will, in turn, become infected from these men and probably infect the civilian population. The Army and Navy are cognizant of this situation and are taking steps to try to control it.

It will be recalled that the former boxer, Barney Ross, who was a marine in Guadalcanal and returned to this country to make public appearances, was required repeatedly to go to bed with chills and fever, and cancel his schedules because of recurrent malaria attacks.

Bacillary and amebic dysentery are also major problems in the South Pacific area. Bacillary dysentery, particularly, is a problem, due to the fact that on the tropical islands flies are so prevalent and carry the infection from infected feces to food. The best treatment for bacillary dysentery is rest and sulfaguanidine, and more recently it has been found that succinyl-sulphathiazole treatment is even much more effective.

Next in order of importance is dengue fever, which has incapacitated many troops for periods of a week to ten days or longer. There are other diseases of lesser importance, of which only a few cases have been reported, such as yaws, leishmani-

asis, schistosomiasis and filariasis or elephantiasis (tropical diseases in which worms are present in the intestines and lymph glands). An interesting fact about yaws is that on islands where the native population is infected with this disease, there is no syphilis. One major problem has been the large number of cases of tropical sores or ulcers which have occurred in troops who have suffered abrasions to the skin from going through the jungle brush, or from swimming and coming in contact with sharp coral. These ulcers are very difficult to heal and become, in some cases, large, deep craters, causing disability for twelve to sixteen weeks. Some of our troops have developed a serious otitis of the external auditory canal from a fungus which entered the ear while swimming in the tropical sea water.

When thousands of service men are returned to the United States following their service in the South Pacific area, many of whom will have had these tropical diseases, it behooves every physician to study the clinical symptoms, diagnosis, and treatment of tropical conditions so that he may better recognize and treat them in the postwar period.

NEUROPSYCHIATRIC CONDITIONS

Neuropsychiatric conditions are an even greater problem in this war than in the last one. This is particularly true of the South Pacific area, where combat conditions in the jungles are probably worse than in any other place in the world. The humid heat, the constant rains, the mosquitoes and ever-present flies, along with the stench and filth of the foxholes and the constant bombing, shelling and strafing by the enemy, together with the maiming and deaths of their comrades, are conditions which a percentage of our troops cannot long withstand. This problem involves all branches of the service. Technically there is not supposed to be any such thing as war psychosis. However, we have come to the belief that every man has his breaking point if put under severe enough physical and mental strain. In civilian life an individual who has a few of the ordinary complexes or phobias avoids and sidesteps all the unpleasant situations and thereby avoids developing an acute psychosis. The same individual in the armed forces in the combat zone cannot avoid any of the terrible realities and horrors of modern warfare. After a certain amount of this he breaks and develops an anxiety neurosis, or what was called in the last war, "shell shock." We call it "combat fatigue" in this war. It may affect anyone and no one is immune. I have seen many of our officers and men suffering from it in the South Pacific. Some of them were medical and dental officers.

The Army and Navy Medical Corps are now both recognizing these cases of "combat fatigue" in their early stages and sending the patients back to rest camps in the rear before the symptoms become acute. Proper sedation and psychotherapy and rest aid in returning nearly all these patients to combat duty in a short time, with complete recovery.

While overseas I became seriously ill and after being hospitalized there for some time, was sent back to the United States for further hospitalization. On the return trip to this country, when we were in the middle of the Pacific, over 4,500 miles from home, the Navy warned us by radio that a Japanese submarine had been sighted and was trailing us at a speed estimated to be approximately the same as ours. We put on all available speed and prayed that the submarine would not catch up with us. You all remember that popular song of a few years ago, "California, Here I Come." Well, that was our theme song for the rest of the trip. You have heard how thrilling the Statue of Liberty looks to Americans returning from Europe. The Golden Gate Bridge looked just as wonderful to all of us as we passed under it and inside the harbor. It was a grand and glorious feeling!

Gentlemen of the Oregon State Medical Society, it has been my privilege to spend nine months in the combat zone of the South Pacific area as an Army medical officer, and I want to say to you that you, as physicians, have every reason to be proud and envious of your fellow physicians who are with the armed forces in that area. When this war is over and all the history of the various branches of the service can be told, you will find that the Medical Corps of both the Army and Navy have made an enviable record, and will have had as much to do with the final victory over the Axis forces as any other branch of the service. It is entirely possible that without their wonderful and efficient service this war could not have been won. We should all be proud of our profession.

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MEDICAL EPONYM

Adie Syndrome

This was discussed by William John Adie (1886-1935) in an article entitled "Pseudo-Argyll Robertson Pupils with Absent Tendon Reflexes, a Benign Disorder Simulating Tabes Dorsalis," which appeared in the *British Medical Journal* (1:928-930, 1931). He writes:

"I wish to draw attention to a benign symptomless disorder characterized by pupils which react on accommodation but not to light, and by absent tendon reflexes.

"Five of the six cases I am about to describe came under my notice in the course of a few weeks; the condition, therefore, cannot be very rare. Though harmless in itself, it merits recognition because it is often mistaken for a manifestation of syphilis of the nervous system, with unfortunate consequences for the patients and their families. . . .

" . . . The true Argyll Robertson pupil reacts promptly and fully, often excessively, on convergence, and dilates again as soon as the effort to converge the visual axes is relaxed. In these cases the pupils show the so-called myotonic reactions; they do not respond to light; they contract very slowly through a wide range during a sustained effort to converge; often remain small long after the effort ends, and, when they dilate again, do so slowly.

"It seems to me more than probable that some . . . cases with nonluetic Argyll Robertson pupils but normal tendon reflexes are examples of a milder form of the same benign disorder that I have described here."—R. W. B., in *New England Journal of Medicine*.